

Lance C. Labun, Ph.D.

Dr. Labun has 28 years of experience in transportation safety. In October, 2017, Dr. Labun received the Michael L. Grost Award for Career Achievement from the Safe Association at their annual symposium.

Dr. Labun began his aerospace career with Simula Inc studying the interaction between profile energy absorbers and seat occupants. During his tenure at Simula, he expanded his knowledge of crash survival technologies beyond seats. After leaving Simula, Dr. Labun conducted two studies of helicopter mishap kinematics by analyzing helicopter crash data from the U.S. Army crash database. The objective of the projects was to provide a quantitative basis for reconsidering the U.S. Army's crashworthiness design criteria. The study investigated the kinematics of crashes including velocity and attitude for eight aircraft models. Recently Dr. Labun was asked to conduct a similar kinematics study on transport aircraft mishaps where the aircraft ended in the water. In the same project, he was asked to analyze the kinematics of regional jet mishaps. These two studies were followed by a study on kinematics of narrow body and wide body transport aircraft.

From 2005 through 2015, Dr. Labun has worked as both an employee and a contractor to Safe, Inc. He served as algorithm developer for a new automatic variable seat energy absorber system that has the capability to minimize the probability of injury for a full range of occupants and also to adapt to crash severity given suitable input. He has also worked on adapting this variable EA system for application in spacecraft seats.

Dr. Labun served as a lead instructor for the International Center for Safety Education. He revised the curricula for the last presentations of the Basic and Advanced courses delivered in 2003. He lectured on crashworthiness, and impact physics. Most recently Dr. Labun has been a team member teaching an Aircraft Crash Survival course to the Australian Defense Forces.

Dr. Labun holds an M.S. and a Ph.D. in Materials Engineering from the University of Illinois at Urbana and a B.S. in Physics from Stevens Institute of Technology. Prior to working at Simula, Dr. Labun held engineering management and process engineering positions at General Electric Lighting.